



2016 North Carolina Envirothon Oral Presentation Rubric

The impacts of invasive species on forests, wildlife, and ecosystems with specific references to biodiversity.

- Invasive species pose a serious threat to the stability of many North American ecosystems. Invasive species have been known to disrupt food webs, damage or destroy habitat and contribute to the decline of indigenous species at risk. In addition to their environmental impact, invasive species can have a significant impact on local economies; in the United States alone it is estimated that invading alien species cause major environmental damage and loss adding up to almost \$120 billion per year (Pimentel, Zuniga, Morrison – 2005).
- Outcompeting native plant species for space and resources.
- Property damage.
- Killing or damaging native species
- Negatively affecting the economy because of damage and the costly nature of removal efforts.
- Clogged waterways.
- Harm to wildlife, domestic animals, and people.
- Increased erosion.
- Increased wildfire potential, altering wildfire intensity and frequency.
- Reduced water resources.
- Limited access for recreation.
- Limited land management activities.
- Limited forest regeneration.
- Reducing biological diversity.
- Reducing habitat value.
- Killing forest trees.
- Placing other species at risk of extinction.
- Damaging crops.
- Closing foreign markets to U.S. products from infested areas.
- Costing millions of dollars in treatments to industry and government.
- Threatening recreational activities of hikers, bikers, boaters, and fishermen, as well as the livelihood of farmers, loggers, and others.



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Outline the common pathways of introduction and spread of invasive species.

- The 19th and 20th centuries have seen an exponential increase in the number of invasive species being intentionally and unintentionally introduced to North America and around the world through a variety of methods. The vast majority of invasive species that have established themselves in North America did so through unnatural or “human-assisted” means, including being introduced by early settlers for agricultural purposes. However, many others have been inadvertently transported to North America through trade and travel, as stowaways on ships or in packaging materials, and through horticulture. With the expected increases in exports and trade in the future, we can likely expect greater challenges and introductions of new species not yet known to occur in North America.
- Accidentally through shipping and transportation.
- Intentionally through human introductions for livestock forage or landscaping.

Discuss methods of invasive species management and include the role and responsibilities of government, businesses, and citizens; methods of managing invasive species that are already established in the area, and methods to prevent new invasive species from getting a foot hold in the area.

- Learn to identify invasive plant species
- Avoid planting invasive species
- Learn about management and control methods
- Participate in removal efforts
- Educate others about invasive species
- Plant native or non-invasive species for landscaping
- Decrease habitat disturbance, since disturbance can increase the prevalence of invasive species
- Report new invasive species to the NC Department of Agriculture and Consumer Services